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# What Can Be Done To Improve The Management Of Money And Staff?

District of Columbia Public Schools

Accumulating and relating costs of education to student achievement could help school management determine if it is getting the most benefit for each dollar spent.

To do this the District of Columbia Public Schools must improve its management system to produce reliable data that would permit ready comparison of costs to educational achievement.

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UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

GENERAL GOVERNMENT  
DIVISION

B-118638

The Honorable Therman E. Evans  
President, Board of Education  
of the District of Columbia  
Washington, D.C. 20004

C. 01815

Dear Mr. Evans:

This report discusses how the District of Columbia Public Schools can better manage its resources. An improved resource management system is needed to help management determine if it is getting the best educational benefit for each dollar spent.

The analyses included in the report are illustrative only and should not be interpreted as pointing a finger at any particular school or department. The analyses are presented only to demonstrate the potential of using managerial techniques for evaluating resource utilization.

cy As you know, section 736(b)(3) of the District of Columbia Self-Government and Governmental Reorganization Act of 1973 requires the Mayor, within 90 days after receiving a GAO report, to state in writing to the Council, with a copy to the Congress, what has been done to comply with the recommendations made in the report. Section 442(a)(5) of the same act requires the Mayor to set forth in the District of Columbia's annual budget request to the Congress the status of efforts to comply with such recommendations.

Copies of this report are being sent to interested congressional committees; the Director, Office of Management and Budget; the Mayor and Council of the District of Columbia; and the Superintendent of Schools.

Sincerely yours,

A handwritten signature in cursive script that reads "Victor L. Lowe".

Victor L. Lowe  
Director

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## ABBREVIATIONS

DCPS	District of Columbia Public Schools
GAO	General Accounting Office .

GENERAL ACCOUNTING OFFICE  
REPORT TO THE BOARD OF  
EDUCATION OF THE DISTRICT  
OF COLUMBIA

WHAT CAN BE DONE TO IMPROVE THE  
MANAGEMENT OF MONEY AND STAFF?  
District of Columbia  
Public Schools

D I G E S T

To better manage its money and staff, the District of Columbia Board of Education should develop a system to accumulate and relate the costs of education to student achievement. Management could then identify any cause-effect relationships between costs and achievement and determine if it is getting the most benefit for each dollar spent.

GAO recommends that the Board of Education:

- Develop and formally prescribe (1) guidelines for improving the accuracy and reliability of the present management systems and (2) criteria for a resource management system.
- Develop and formally adopt an overall plan and timetable for designing, installing, and operating a comprehensive resource management system that will provide for accumulating and reporting cost data and information on education, as discussed in this report. (See p. 24.)

The Superintendent of Schools agreed with these recommendations and said such a system and a program evaluation system already developed by the District of Columbia Public Schools should improve resource management and enable school managers to evaluate the efficiency and effectiveness with which resources have been allocated throughout the school system.

Before the District of Columbia Public Schools can relate educational achievement to costs, the Superintendent said a reliable and useful system data base must be developed. This is one of the school system's highest priorities. (See p. 25.)

The Board said that the subjective nature of student evaluations by teachers would have to be considered in measuring program effectiveness based solely on grades. It believes, however, that the need for a data system which could be used for management purposes, including comparing costs with educational results, fully justifies the efforts and resources that are needed to develop and operate it. (See p. 25.)

The Board said that better management of the school system, which includes developing data for effective use of school resources, has a high priority, but that it has been delayed, largely because of inadequate appropriations. (See p. 25.)

Accumulating costs by schools and by school programs and functions and comparing them with student achievement will help identify where improvements can be made.

GAO reviewed only the cost of personnel services in the 12 senior high schools. (See p. 3.)

The report illustrates the kind of information which can help school managers improve their schools. (See p. 10.) Because the examples are illustrative, no firm conclusions about the District of Columbia Public Schools or student performance should be drawn. (See p. 4.)

During the 1972-73 school year:

--At one senior high school, each final grade issued by the social studies department cost an average of \$180 in teacher salaries; at a second high school, only \$72. On the average, students received higher grades at the second school. Why did about two-thirds less cost produce a better result? (See p. 18.)

--In the social studies departments for 6 schools reviewed, pupils taught in classes of 14 students or less received lower grades than pupils taught in classes of 30 students or more. In the foreign language departments for the same schools, pupils taught in

classes of 14 students or less received higher grades than pupils taught in classes of 30 students or more. Further evaluation seems necessary to determine if tailoring class sizes to specific subjects produces better results. (See pp. 21 and 22.)

GAO did not intend to examine the reasons for the differing results, but only to show that comparing financial data with educational results can provide management with information for further analysis.

The following, and similar, questions need to be answered. Management can then consider what changes, if any, are necessary to produce the best results for resources used.

#### QUALITY OF INSTRUCTION

- Are the best qualified teachers being assigned to certain schools to the detriment of other schools?
- Is there a need for more and better teacher training?
- Are pupils entering certain senior high schools better prepared by certain junior high schools?
- Are teaching aids distributed effectively to meet school needs?
- What teaching style is desirable?
- What teaching aids would produce the best results?
- Have administrative problems developed which interfere with teaching?

#### CLASSROOM ENVIRONMENT

- Are uniform class sizes conducive to high achievement or should they be tailored to specific subjects?
- What teaching experience is needed for different subjects?

--What time of day should subjects be offered?

--Is student attendance satisfactory?

Before the District of Columbia Public Schools can improve resource management, the existing management systems must be improved and expanded to produce reliable data that permits ready comparison with educational results. (See p. 5.)

To do this the District of Columbia Public Schools should:

--Establish specific educational goals system-wide and by school and school function.

--Accumulate cost and educational data which can be readily compared to the goals.

--Develop cost and performance data on teachers and students by school and subject matter.

--Monitor performance and costs on a continuing basis to insure proper allocation of resources.

--Analyze data so problems can be identified.

The American Association of School Administrators indicated that accumulating and analyzing data as discussed in the report should help school management. To their knowledge, other school systems in the country do not usually compare costs to student achievement.

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## CHAPTER 1

### INTRODUCTION

2        The President's Commission on School Finance, established in March 1970 to study and report on future revenue needs and resources of the Nation's elementary and secondary schools, concluded in its March 1972 report that there was a great need for educational reform. The Commission stated that State and local education agencies should start looking at school systems from a return on investment or business viewpoint. It recommended that State and local education agencies give increased emphasis to establishing and improving systems for comparing costs and benefits of various educational programs and organizational alternatives and for measuring their effectiveness. D. 01248

1        In a January 1973 statement of educational goals, the District of Columbia Board of Education commented on the need for continued improvements in managing the District of Columbia Public Schools (DCPS). The Board was concerned with the need to establish alternative methods for achieving the most effective and efficient use of its resources and to develop the management capabilities--financial and educational program information systems--to evaluate whether DCPS objectives were being attained. D. 01249 C. 01815

### OTHER STUDIES AND RECOMMENDATIONS

During the past 8 years, several studies were made of DCPS. These studies, although principally directed toward educational programs, commented on the DCPS resource management system and made recommendations for improving it.

One study <sup>1/</sup> concluded that DCPS should allocate its educational resources on the basis of educational need. The study recommended that the District develop and implement a system which could develop resource expenditure data by various programs which, when coupled with quantitative measures, would provide a reasonable cost-effectiveness analysis of the extent to which particular goals were met.

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<sup>1/</sup>A. Harry Passow, "Toward Creating a Model Urban School System: A Study of the Washington, D.C. Public Schools," Teachers College, Columbia University, New York, N.Y., 1967.

Another study 1/ pointed out the need for analyzing and comparing the effects of different educational programs and services with students of different educational needs. It concluded, however, that DCPS lacked adequate research and evaluation capabilities. The study recognized that methods were needed to measure the extent to which education programs benefit District students.

A third study 2/ recommended that DCPS:

- Develop and implement a formalized planning and programming system through which DCPS objectives are determined, documented, evaluated, and approved. It called for DCPS to design and install a management information system which will provide data needed for planning and programming.
- Revise the activity structure of the school budget to reflect the resources invested in each teaching activity, and thus make the budget a more valuable tool for planning the use of resources and measuring the results.
- Review the validity of using "standards" to govern ratios of teachers and administrative staff to pupils as a means of allocating resources.

#### DCPS actions on prior studies

In May 1974 the Deputy Superintendent of Management Services, in a report to the Board of Education, commented on the results of DCPS' response to past studies and recommendations. The report stated:

"In spite of the activities that have been put into place as a result of the various studies, the level management remains at a minimum acceptable level.

"In many areas, the improvements can be considered to be significant; however, the efficiency of the management component of the school system is

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1/H.R. Cort, Jr., "Evaluation of Programs in the D.C. Public Schools--Some Strategies and Systems," The Washington School of Psychiatry, Washington, D.C., February 1970.

2/"Report of the Commission on the Organization of the Government of the District of Columbia," U.S. Government Printing Office, Washington, D.C., 1972.

directly related to the allocation of resources needed to provide the services and support a dynamic and expanding educational program.

"Full implementation of the recommendations made in the Passow, Nelsen \* \* \* studies have been constrained by budgetary considerations, staff deficiencies, delays in filling key positions, and coordination and development of necessary working relationships with District Government agencies."

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### ORGANIZATIONAL DATA

According to DCPS records for the 1974-75 school year, the District had the 12th largest city public school system in the United States--about 200 schools. For that year, the school system served about 132,000 elementary and secondary pupils. Total school enrollment for the District has been declining over the past few years. In school year 1971-72 enrollment was about 143,000; in 1972-73 about 140,000; and in 1973-74 about 137,000.

DCPS operations are financed primarily by annual appropriations from the Congress and by grants from Federal agencies. Appropriations and grant funds received by DCPS totaled about \$204 million in fiscal year 1974 and about \$224 million in fiscal year 1975. DCPS had about 11,700 employees in fiscal year 1975.

An 11-member elected Board of Education sets policy for DCPS and appoints a Superintendent to operate the schools. The Mayor and the Council of the District of Columbia may establish the maximum amount of funds which will be allocated to the Board but may not specify the purposes of amounts for which program funds may be spent.

### LIMITATIONS OF REVIEW

Because DCPS records were poorly maintained and contained many errors and because of the time-consuming effort that would have been required to develop reasonably accurate data for a scientifically selected sample of schools, we limited our review to the 12 senior high schools. (See ch. 5.)

We developed criteria that could be used by DCPS in establishing and implementing an effective resource management system (See p. 5). Illustrative approaches were developed demonstrating how systematic accumulation and reporting of cost information and education program data could be used

by school officials to serve as a basis for allocating resources among the schools and evaluating student performance.

The illustrative approaches are suggested techniques that can be used by school management. These approaches are not complete or precise analyses, and other factors, such as educational judgment and experience, manpower limitations, and the needs of students would have to be considered before any conclusions can be reached or action taken concerning use of resources. These approaches, however, are starting points in resource management evaluation upon which detailed analyses can be made. They were not intended to analyze and resolve all the factors bearing on the proper use of resources but rather to demonstrate the potential for effective resource management techniques.

In the illustrative approaches, student grades are used to compare student performance among the senior high schools. However, student grades are not the best indicator of student performance. Many variables bear upon student performance, and the use of basic skills and achievement measurements might be a better indicator; however, this type of information is not readily available from DCPS. Measuring basic skills of all senior high school students is not regularly done at all levels, and during school year 1972-73 achievement tests were given only to the 11th grade students in November. Therefore, of necessity, the only readily available student performance data--student grades--was used.

Because the examples are illustrative, no firm conclusions about DCPS operations or student performance should be drawn.

The data we used was the latest available at the time of our review. Because our objective was to demonstrate the feasibility of our techniques, we believe that the data we used was appropriate and that data collected by DCPS after our review was not essential to demonstrate the usefulness of our techniques.

## CHAPTER 2

### NEED TO IMPROVE AND EXPAND

#### DCPS RESOURCE MANAGEMENT SYSTEM

In January 1973, the District of Columbia Board of Education, recognizing the need to make system changes to provide quality education programs for all District children, adopted as its first priority the objectives of (1) developing the most efficient and effective process for allocating resources for the school system and (2) formulating alternative means for providing equal educational opportunity.

Although significant headway has been made, DCPS needs to further improve its financial management and education systems to meet the Board's objectives. The District of Columbia Public Schools needs to have a system that can tell it how much it is costing to teach students at individual schools, by department and subject matter, to help managers determine whether specific educational objectives are being met economically. For example, the existing system cannot tell management such things as (1) how much it costs to teach the same subject at each school, (2) why costs vary among schools, (3) how salaries, class size, etc., affect the cost, and (4) whether the costs incurred are producing the desired results. The existing system cannot produce reliable data because of poor recordkeeping.

DCPS also needs a system to help managers monitor operations and evaluate student performance to see if resources have been effectively distributed and used throughout the school system.

#### CRITERIA FOR RESOURCE MANAGEMENT

A resource management system, an integral part of overall school management, serves as the basis for marshaling, controlling, and using resources (people, money, and physical assets) to achieve specific objectives economically and effectively. It consists of several subsystems and capabilities, such as financial management and educational program information systems and evaluation and research capabilities, which provide management with the costs of resources used, services received, and results achieved.

To manage resources, a statement of criteria and guidelines should be developed for defining the overall system objectives, the interrelationships and purpose of each subsystem, and the controls and data needed to achieve sound management.

Appendix III outlines suggested criteria we developed which could be used by DCPS in developing an effective resource management system.

#### PROBLEMS WITH THE EXISTING RESOURCE ALLOCATION SYSTEM

##### Formulas and ratios not related to need

DCPS allocates resources among the schools generally on the basis of pupil-teacher ratios and dollars-per-pupil expenditure formulas without relating the resources to the schools' specific needs and educational goals and objectives.

According to the Superintendent of Schools, the costs of teachers, textbooks, and supplies are allocated among the schools on the basis of the number of pupils enrolled at the schools. <sup>1/</sup> The DCPS method of allocating resources assumes that the same amount of resources per student are needed at each school to advance its educational objectives, even though the needs may differ among schools.

For fiscal year 1973, according to the budget documents, the allotted pupil-teacher ratio for the senior high schools was 27 to 1. In 1974 and 1975 the ratio was 26 to 1 and 25 to 1, respectively. DCPS has not established criteria to measure the educational benefits of a change in the pupil-teacher ratio or to determine whether the cost of the change is commensurate with expected benefits. For example, the reduction in the pupil-teacher ratio between 1973 and 1975 cost over \$750,000 in teacher salaries. Without relating the change in the pupil-teacher ratio to specific educational benefits expected, management cannot assess whether the increased cost was justified.

DCPS allocates supplies, equipment, and textbooks to schools on the basis of dollar-per-pupil expenditure formulas. In fiscal year 1973, senior high schools were allocated, for each pupil, \$4.90 for instructional supplies, \$5.60 for textbooks, \$3.81 for library books, and \$2.95 for equipment. Thus, each school received the same amount of money for each pupil for these resources, even though the needs of the schools might have varied.

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<sup>1/</sup>See ch. 4. DCPS is required by court decree to provide substantial equality in the allocation of resources to the various schools.

The use of formulas or ratios is an expedient way of allocating resources throughout the school system, but they should relate to desired educational goals and needs. A 1967 study of DCPS concluded:

"Cities tend to distribute teachers and other resources 'equally' among neighborhoods through the use of standards or ratios \* \* \*. These standards apply to pupil-teacher ratios and dollar-per-pupil expenditures for supplies and equipment.\* \* \* In Washington, as in most cities, once established they are seldom reviewed or evaluated systematically by the Board or by the public." 1/

The report recommended that DCPS allocate its resources on the basis of the educational needs or location of the schools.

Formulas and ratios, if used, should be related to educational needs to permit changes to be made to alter the flow of resources throughout the school system and to correct any imbalances that may arise between resources applied and the educational needs of the schools.

For instance, instructional departments may, depending on the effect of class size on student performance, require more or fewer teachers than assigned. (See ch. 3.) Thus, certain departments could require fewer teachers and thereby permit increased allocations to other educational departments.

#### Data must be reliable and useful

The financial and educational information subsystems need to be improved to provide reliable, complete, and useful data on school operations and student performance to enable management to make informed judgments on how resources should be allocated to achieve objectives. Unless costs are accurately associated with each school and school function, management cannot relate cost to performance to determine whether resources have been economically and effectively used.

The DCPS financial system is designed to provide control of specific expenditure items--such as salaries, travel, supplies, and equipment--in terms of funds available to DCPS.

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1/A. Harry Passow, "Toward Creating a Model Urban School System: A Study of the Washington, D.C. Public Schools," Teachers College, Columbia University, New York, N.Y., 1967, p. 20.

While certain cost data can be obtained, the system does not systematically allocate, accumulate, and report, by individual schools, the costs of school functions and activities, such as administration and instruction, and the costs of achieving educational programs, such as reading and mathematics. Also the system's data is not reliable.

For example, because of poor recordkeeping, the total amount of teacher salaries could not be related to the schools where the teachers taught. Also, because of inadequate accounting controls over the cost of other resources, the accounting records did not show the correct amount of the resources purchased, onhand, and used.

Personnel control listings furnished by DCPS headquarters for each senior high school for the 1972-73 school year contained errors. Therefore, the listings could not be used to determine how many employees worked at each school. We had to visit each senior high school to find out who worked there. Of the 1,880 employee names shown on the listings, 300 names had to be either deleted or added to the listings to correct them. This indicated an overall error rate of 16 percent.

The assignment of teacher salary costs to schools and school functions using inaccurate data could cause erroneous conclusions to be reached concerning the cost of educating children at particular schools and the assessment of performance in relation to such costs.

Costs for equipment, supplies, textbooks, and materials totaled about \$7.7 million in fiscal year 1973. Because of inadequate inventory controls, equipment purchased by the schools was not always recorded in the equipment accounting records at DCPS headquarters. For example, at one school during fiscal year 1972, equipment costing about \$4,900 was purchased but only about \$2,200 was recorded in the inventory control system records.

Differences existed between the school warehouse supply inventory records and the actual quantities onhand. For example, inventories made of selected supply items in fiscal year 1973 showed that supplies onhand totaled at least \$138,000 less than the amount recorded. Although we did not look for instances when management relied on inaccurate data to procure supplies for the school system, errors in the accounting records could adversely affect management decisions in operating the warehouse and in meeting the needs of the schools. For example, a manager relying on supply records



which were overstated by \$138,000 could decide not to purchase additional supplies when, in fact, such supplies might be needed for the success of educational programs.

It is essential that the DCPS financial system be improved to provide useful and reliable costs of operation and other data to help management evaluate the use of resources for accomplishing objectives.

#### System needs expansion

The existing automated information system can provide educational information, such as student grades, student class scheduling, attendance data, and class listings. This data is needed to determine the effects of all these factors on costs and performance in achieving objectives. The system, however, has been installed in only 29 of the District's 200 schools (including the 12 senior high schools).

A monitoring system needs to be developed which would relate operation costs to operational performance and output measurements, such as student grades and teacher workloads. Managers could then evaluate how resources are used and whether they contribute toward achieving educational objectives.

Monitoring cost and performance data would help identify departures from acceptable standards of performance, help managers identify problems needing attention and give them data essential in making sound decisions on the use of resources.

The research and evaluation capability needs to be expanded and further developed to enable management to react to the data obtained from the monitoring system. DCPS research and evaluation capability has been very limited for the past several years. A DCPS official stated that it has been understaffed and primarily involved in administrative and statistical tasks not directly related to research and evaluation activities. An improved research and evaluation capability should permit management to change its resource allocation to achieve maximum educational benefits from resources used.

## CHAPTER 3

### APPLYING EVALUATIVE TECHNIQUES TO MEASURE

#### RESOURCE ALLOCATION EFFECTIVENESS

A resource management system should include techniques for measuring the effectiveness of resources used, for helping management decide on future resource needs, and for allocating resources to the schools to effectively meet educational program objectives.

The following examples illustrate how information accruing from a fully developed resource management system can be useful in analyzing resources applied. These examples are illustrative only and are starting points for detailed analyses. (See p. 4.)

The examples were developed to show the differences in the cost of personnel services for the senior high schools; to identify and analyze the major cost category--instruction (teacher salaries)--at the school and department level; and to determine whether relationships among teacher salaries, class size, and student performance could be considered as potential and proper indicators of the efficiency and effectiveness of DCPS' present methods of resource allocation.

#### METHODOLOGY AND AVAILABILITY OF DATA

At the time of our review, the DCPS accounting system could not routinely provide personnel cost data for each school or by school function. To obtain this information for school year 1972-73, data contained on two automatic data processing tapes was used--payroll, which showed employee salaries, and school personnel position control, which showed where the employee worked. Consolidating data on these tapes produced, by school, each employee's name, salary paid, and position title. However, because of inaccuracies in personnel control data (see p. 8.), each school had to be visited and, through discussion with officials, the data was adjusted for a correct listing of employees working at the school. Using this information, estimated personnel costs of the six functions at each school were derived. These functions are:

1. Administration--salaries paid principals, clerks, etc.
2. Instruction--salaries paid regular teachers.
3. Instruction support--salaries paid counselors, librarians, etc.

4. Substitute teachers--salaries paid substitute teachers.
5. Plant operation and maintenance--salaries paid custodians, engineers, etc.
6. Food services--salaries paid cooks, bakers, cafeteria workers, etc.

Instruction costs totaled about \$11 million, or 65 percent of the total personnel costs. For our illustrations, instruction costs were distributed according to position title and job description to the 13 instructional departments (such as English, mathematics, and social studies).

The average class size for the 12 schools and 13 instructional departments was based on information obtained through DPCS' automatic data processing educational program information system for the 1972-73 school year. This data showed the number of classes taught by department and the number of final grades--one grade for each student--issued for each class. The number of final grades issued by each department was divided by the number of classes taught in that department to arrive at the average number of pupils in classes--average class size. This was done for each instructional department.

Using the information obtained, we developed several illustrative approaches showing how DCPS could use the data to help it identify tentative issues and to raise questions concerning resource allocations to schools.

#### Approach 1

##### Cost per pupil per school and school function

The following table shows cost per pupil for personnel services for the 12 senior high schools for the 1972-73 school year. Average costs per pupil were obtained by dividing total costs for each major function by the average monthend enrollment for the school year.

Average Cost Per Pupil For Personnel Services  
School Year 1972-73

Personnel Categories	Anacostia	Ballou	Cardozo	Coolidge	Dunbar	Eastern	McKinley	Roosevelt	Spingarn	Western	Wilson	Woodson	Range	
													High	Low
Administration	\$ 68	\$ 52	\$ 60	\$ 52	\$ 68	\$ 49	\$ 50	\$ 79	\$ 73	\$ 95	\$ 53	\$ 87	\$ 95	\$ 49
Instruction	576	475	573	553	565	548	544	649	755	647	513	468	755	468
Instructional support	101	77	94	104	101	87	78	106	101	153	67	100	153	67
Substitute teachers	16	12	19	16	8	11	11	16	16	11	11	10	19	8
Building operation and maintenance	90	78	128	92	92	89	80	87	142	135	91	94	142	78
Food services	27	18	27	37	33	21	35	34	32	35	22	47	47	18
Total	\$878	\$712	\$901	\$854	\$867	\$805	\$798	\$971	\$1,119	\$1,077	\$757	\$806	\$1,119	\$712

Average month-end school enrollment	1,359	2,177	1,600	1,592	1,324	2,011	2,360	1,226	1,138	1,004	1,762	1,496	2,360	1,004
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The table shows wide differences in costs per pupil among the senior high schools for personnel services. The costs ranged from about \$712 at Ballou to about \$1,119 at Spingarn--a difference of about \$407.

Instructional costs (teacher salaries) represent about 65 percent of the total school costs. Spingarn had the highest instructional cost of about \$755 per pupil, while Ballou had next to the lowest instructional cost of about \$475 per pupil--a difference of about \$280. This variance was attributed to differences in the number of teachers assigned, their salaries, and pupil enrollment. (The amount of salary paid teachers can differ because of teaching experience and teacher preparation, such as the number of degrees earned.)

--At Spingarn there were 65.1 equivalent full-time teachers and an average monthend enrollment of 1,138 pupils, or 1 teacher per 17.5 pupils. Total teacher salaries were \$858,800, or an average full-time equivalent salary of about \$13,200 per teacher.

--At Ballou there were 97.5 equivalent full-time teachers and an average monthend enrollment of 2,177 pupils, or 1 teacher per 22.4 pupils. Total teacher salaries were \$1,033,000, or an average full-time equivalent salary of about \$10,600 per teacher.

Considering only the pupil enrollment of the 2 schools, Spingarn would need 14 fewer teachers if the Ballou pupil-teacher ratio was used, as shown below.

Monthend enrollment at Spingarn	1,138
Pupil-teacher ratio at Ballou	22.4 to 1
Required number of teachers, using Ballou ratio (1,138 - 22.4)	51
Number of equivalent teachers at Spingarn	65
Difference	14

The seemingly out of line pupil-teacher ratio between the two schools is pronounced when considering the schools' curriculum. The types of courses for each instructional department were generally the same at each school, and the total number of courses for all departments was about the same--Spingarn had a total of 99 courses and Ballou had 105 in all 13 departments.

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## Issues and questions

The difference among schools in instructional cost, as well as differences in other cost categories, may be justified. However, since this data is not systematically made available to school management, there is no assurance that the differences in educational costs are known by management and have been investigated and evaluated and that the resource allocations are fully justified and documented.

The reasonableness of instructional cost differences among the schools was not examined; however, because of these differences certain questions, which should be considered as part of the evaluation process of a resource management system, can be raised. For example:

- Because teacher salaries are based on educational preparation and experience and because the average salary at Spingarn was significantly higher than that at Ballou, could an imbalance exist in the distribution of better prepared and more experienced teachers?
- Because teachers at Spingarn teach fewer pupils than those at Ballou, should size of classes at Spingarn be increased, thereby freeing teachers to fill needs at other schools?
- why do teachers with higher salaries have smaller classes and teachers with lower salaries have larger classes?

These questions surfaced when two contributing factors--salary costs and pupil enrollment--were analyzed. An indepth analysis would have to consider other factors, such as manpower limitations, student performance, and union agreements (see p. 4) before final judgments could be made concerning cost differences and before any action could be taken to change or equalize such costs.

## Approach 2

### Cost per equivalent final grade for each instruction department

The data developed in illustrative approach 1 was analyzed further to ascertain the possible effects of teacher salaries and class size on instruction costs for the 13 departments at each senior high school. Such analysis can help management determine if teacher salaries have been applied effectively in providing classroom education.

To provide a more indepth analysis and measurement of instructional costs at the department level, the number of final grades issued was used for analysis, rather than the number of students enrolled, as in approach 1. (This was done to account for all pupils in a class because students can attend more than one class in the same department during the same reporting period.)

Classes in the senior high schools are conducted on a quarter-year, half-year, and full-year basis, depending on the department and the school. Students are also graded on that basis. For example, a teacher with 4 quarterly classes each year and with 40 pupils for each class gives out 160 final grades, whereas a teacher with a full-year class of 40 pupils gives out only 40 final grades. To put the grades on the same basis, the 160 grades were reduced to 40 equivalent grades ( $160 \div 4$ ) and, for our analysis, called equivalent final grades.

Equivalent final grade costs were determined by dividing total equivalent final grades into total instructional costs for each of the 13 instructional departments at each school.

The final grade information was taken from DCPS student mark distribution summary reports for each department at each school. These reports show, by instructional department, the final grade received by each student in each class summarized by numerical scores (A = 4 points; B = 3; C = 2; D = 1; and F, incomplete, etc. = 0). Each school and each department were ranked from 1st to 12th using these numerical scores.

Student grades are not the best indicator of student performance. Many variables bear upon student performance, and the use of basic skills and achievement measurements might be a better indicator; however, this type of information is not readily available from DCPS. Measuring basic skills of all senior high school students is not regularly done at all levels, and during school year 1972-73, achievement tests were given only to the 11th grade students in November. Therefore, of necessity, the only readily available student performance data--student grades--was used.

Table 1 shows significant differences exist in instructional costs by school and department when calculated on an equivalent final grade basis.

Table 1

Average Instructional Cost per Equivalent Final Grades  
School Year 1972-73

Instructional departments	Anacostia	Bailou	Cardozo	Coolidge	Dunbar	Eastern	School					Western	Wilson	Woodson	Range	
							McKinley	Roosevelt	Spingarn						High	Low
Art	\$ .96	\$101	\$242	\$184	\$137	\$103	\$127	\$ 81	\$129			\$177	\$ 90	\$129	\$242	\$ 81
Business education	115	113	102	135	123	85	105	181	169			112	60	72	181	60
Driver education	172	157	186	188	223	218	225	163	343			142	193	(a)	343	142
English	103	80	109	89	109	83	104	96	117			104	87	75	117	75
Foreign language	129	85	139	105	126	214	124	122	197			157	149	98	214	85
Health and physical education	94	102	103	109	127	110	93	110	171			135	82	74	171	74
Home economics	108	139	118	180	104	140	145	208	156			177	100	132	208	100
Industrial arts	117	112	91	142	153	106	129	173	287			(b)	139	119	287	91
Mathematics	99	77	96	99	109	139	87	140	110			91	72	87	140	72
Military science	(b)	71	195	97	122	84	94	51	171			121	166	225	225	51
Music	104	104	118	125	142	86	117	298	248			117	104	66	298	66
Science	104	105	115	81	108	115	98	146	141			76	98	83	146	76
Social studies	107	92	89	78	93	104	76	94	180			93	72	81	180	72
Total number of equivalent final grades	7,371	10,615	8,500	6,483	6,515	10,226	12,590	5,754	5,374			5,907	10,960	8,470		

a/Driver education offered at this school but sufficient information was  
not available to develop cost.

b/Departmental course not offered.

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Table 2

High and Low Cost Per Equivalent Final Grade  
School Year 1972-73

<u>Departments</u>	<u>School</u>	<u>Cost per equivalent final grade</u>	<u>Equivalent teacher salary cost (note a)</u>	<u>Average class size</u>	<u>Average number of classes taught per teacher per day (note b)</u>	<u>Total teacher salaries</u>	<u>Total equivalent teachers (note a)</u>	<u>Student performance ranking (note d)</u>
Art	Cardozo	\$242	\$16,670	13.8	5.0	\$ 16,670	1.0	9th
	Roosevelt	81	8,350	20.6	5.0	8,350	1.0	11th
Business education (note e)	Roosevelt	181	13,054	15.0	4.9	130,541	10.0	5th
	Wilson	60	11,304	17.3	3.3	56,522	5.0	1st
Driver education	Spingarn	343	13,875	16.2	5.0	27,751	2.0	3d
	Western	142	12,044	20.9	5.0	12,044	1.0	5th
English	Spingarn	117	13,491	23.2	5.0	129,509	9.6	10th
	Woodson	75	10,149	27.0	4.8	115,701	11.4	3d
Foreign language	Eastern	214	14,642	17.8	3.8	102,494	7.0	3d
	Ballou	85	8,969	21.1	5.0	44,845	5.0	12th
Health and physical education	Spingarn	171	15,121	18.1	4.8	120,966	8.0	7th
	Woodson	74	11,202	36.7	4.1	89,619	8.0	9th
Home economics	Roosevelt	208	13,735	14.9	5.0	41,206	3.0	3d
	Wilson	100	13,090	26.9	5.0	26,181	2.0	11th
Industrial arts	Spingarn	287	14,196	9.9	4.9	62,462	4.5	8th
	Cardozo	91	10,068	23.4	4.8	40,271	4.0	9th
Mathematics	Roosevelt	140	14,177	20.9	4.9	99,242	7.0	12th
	Wilson	72	12,352	34.4	5.0	98,819	8.0	3d
Military science	Woodson	225	13,965	15.5	2.0	6,983	.5	10th
	Roosevelt	51	14,800	73.0	1.0	3,700	.25	3d
Music	Roosevelt	298	14,585	9.8	5.0	29,170	2.0	7th
	Woodson	66	11,055	33.4	5.0	33,166	3.0	2d
Science	Roosevelt	146	13,203	18.1	5.0	79,219	6.0	3d
	Western	76	10,978	31.4	4.4	52,696	4.8	7th
Social studies	Spingarn	180	14,983	24.4	4.9	111,620	7.45	10th
	Wilson	72	11,641	35.6	4.8	116,408	10.0	1st

a/Teachers receiving full-time salary and carrying full-time teaching load.

b/Normal teaching load is five classes a day, 5 days a week. Reasons for not carrying full teaching loads are split schedules between two or more schools, performing duties other than teaching, etc.

c/Split schedule between two or more schools.

d/Based on the average numerical scores of students' final grades.

e/These calculations include office assistant courses taught by administrative personnel. Their salary costs could not be readily allocated to instruction costs and are excluded.

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Table 3

Average Cost Per Equivalent Final Grade  
and Performance Ranking

<u>School</u>	Average cost per equivalent grade	Comparative student performance ranking (note a)
woodson	\$ 83	3d
Wilson	89	1st
Ballou	97	12th
Mckinley	103	2d
Coolidge	104	6th
Anacostia	106	9th
Cardozo	107	11th
Eastern	108	7th
Western	110	4th
Dunbar	115	10th
Roosevelt	127	8th
Spingarn	160	5th

a/Based on the average numerical scores of the final grades given all students.

Accumulating and analyzing data is the first step toward knowing that differences exist and questioning why. Cost data is only one indicator and consideration must be given to other underlying factors, such as teacher experience and preparation and class size, before decisions can be made about resource use and allocation.

Table 2 shows that variations in teacher salaries and class sizes contributed to the cost differences between the schools and departments. Table 3 is another method of comparing costs with overall student performance.

The following examples, constructed from table 2, show the differences in instructional costs between certain schools.

--The cost per equivalent grade for the foreign language department at Eastern was about \$214; at Ballou the cost was only \$85--a \$129 difference. The average teacher's salary at Eastern was about \$5,700 higher than that at Ballou; the average number of students in each class at Eastern was about 3 fewer than in each class at Ballou.

--The cost per equivalent grade for the social studies department at Spingarn was about \$180; at Wilson the

cost was about \$72--a \$108 difference. The average teacher's salary at Spingarn was about \$3,300 higher than that at Wilson; the average number of students in each class at Spingarn was 11 fewer than in each class at Wilson.

The table shows variations which give reason to question the relationship between resources applied and student performance. For example:

--Wilson ranked first in student performance in business education and spent \$60 per final grade with a class size of 17.3; Roosevelt ranked fifth, spent \$181 per final grade, and had a class size of 15.

--Ballou ranked 12th in student performance in foreign language and spent \$85 per final grade with a class size of 21.1; Eastern ranked 3d, spent \$214 per final grade and had a class size of 17.8.

#### Issues and questions

This approach shows significant differences among schools and departments for the cost of each final grade issued. When these costs are associated with student performance, there appears to be a questionable relationship between how resources were used and the results--student performance--achieved. Two major factors contributing to cost differences--teacher experience and class size--raise questions as to how much influence each one has on student performance.

--Is better student performance a direct result of teacher preparation and experience for certain departments? If so, why is it not true for other departments? Is more teacher training needed?

--In what class sizes do students perform best for the various subjects?

These and other factors, such as the number of classes taught by each teacher each day, should be fully explored to evaluate the cost differences in final grades issued and the relationship of these costs to student performance. Again, accumulating and analyzing data is the first step toward knowing that differences exist and questioning why.

### Approach 3

#### Class size and student performance

Because class size is one factor influencing the per pupil cost, we wanted to know what effect different class sizes might have on student performance, as measured by student grades.

Our analysis comprised six schools and six instructional departments. Classes were categorized into sizes of 10 to 14, 15 to 19, 20 to 24, 25 to 29, and 30 and over students. Because there were few classes in the under 10 category, these classes were combined with the 10 to 14 groups for analysis. Categorizing class sizes by multiples of five students has been used in other research studies on class size. 1/

Performance was measured by the final grade received by each student in each class and summarized by numerical ranking.

The following graphs show, by instructional department for the six schools, the average grade point received by students for each class size. Student performance in each department at each of the six schools studied was generally the same.

As illustrated in the graphs, class-size variations seem to have had little or no effect on the average grade point received for English. In the health and physical education department, the average grade point was somewhat higher in the categories of 10 to 14 and 30 and over than in the other categories. The average grade point in the 25 to 29 category was the lowest.

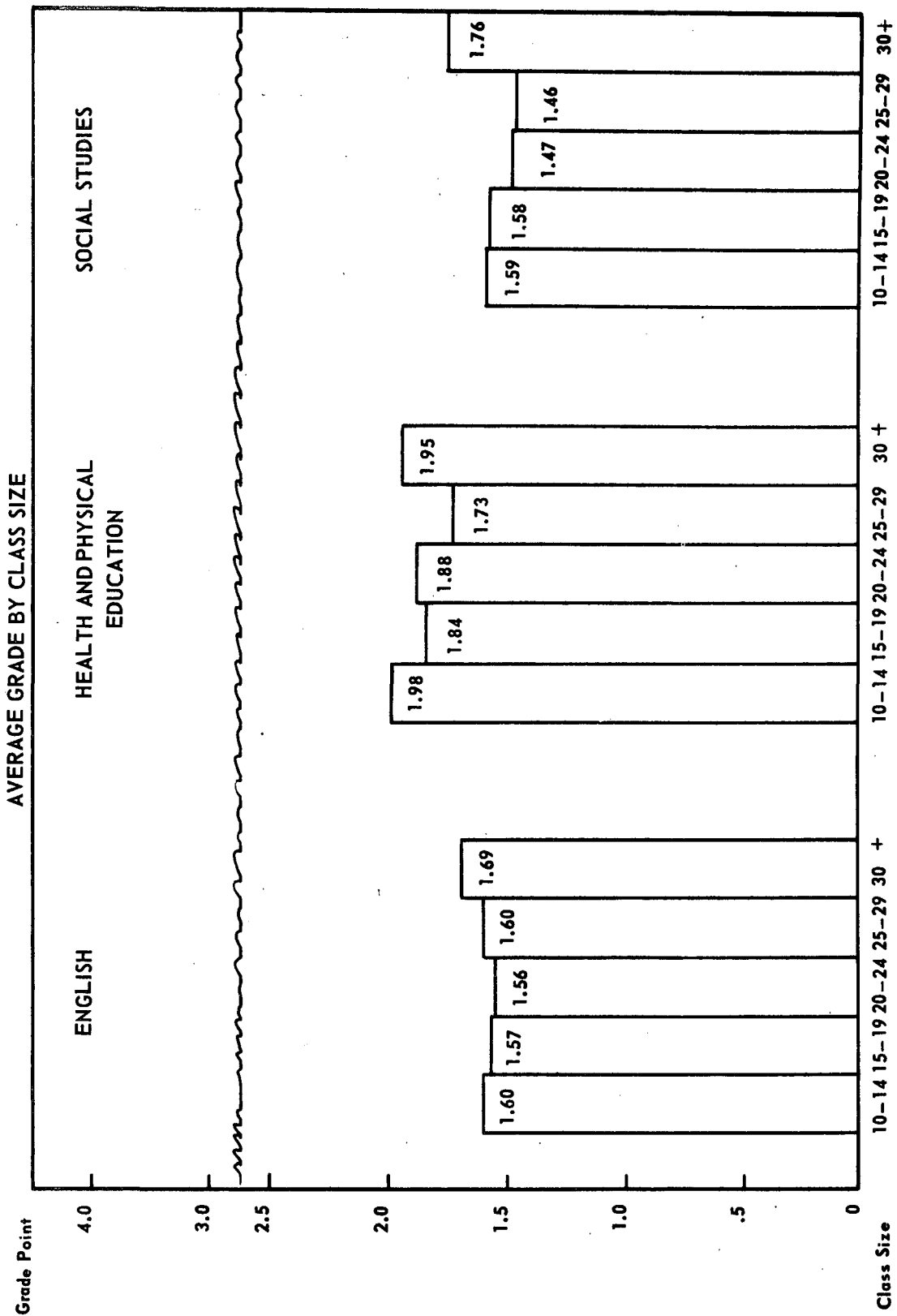
For social studies, the average grade point was the highest for the 30 and over category. For mathematics, the average grade point was the highest in the 10 to 14 category.

In the science department, the two smaller class-size categories had a higher average grade point than did the three larger categories.

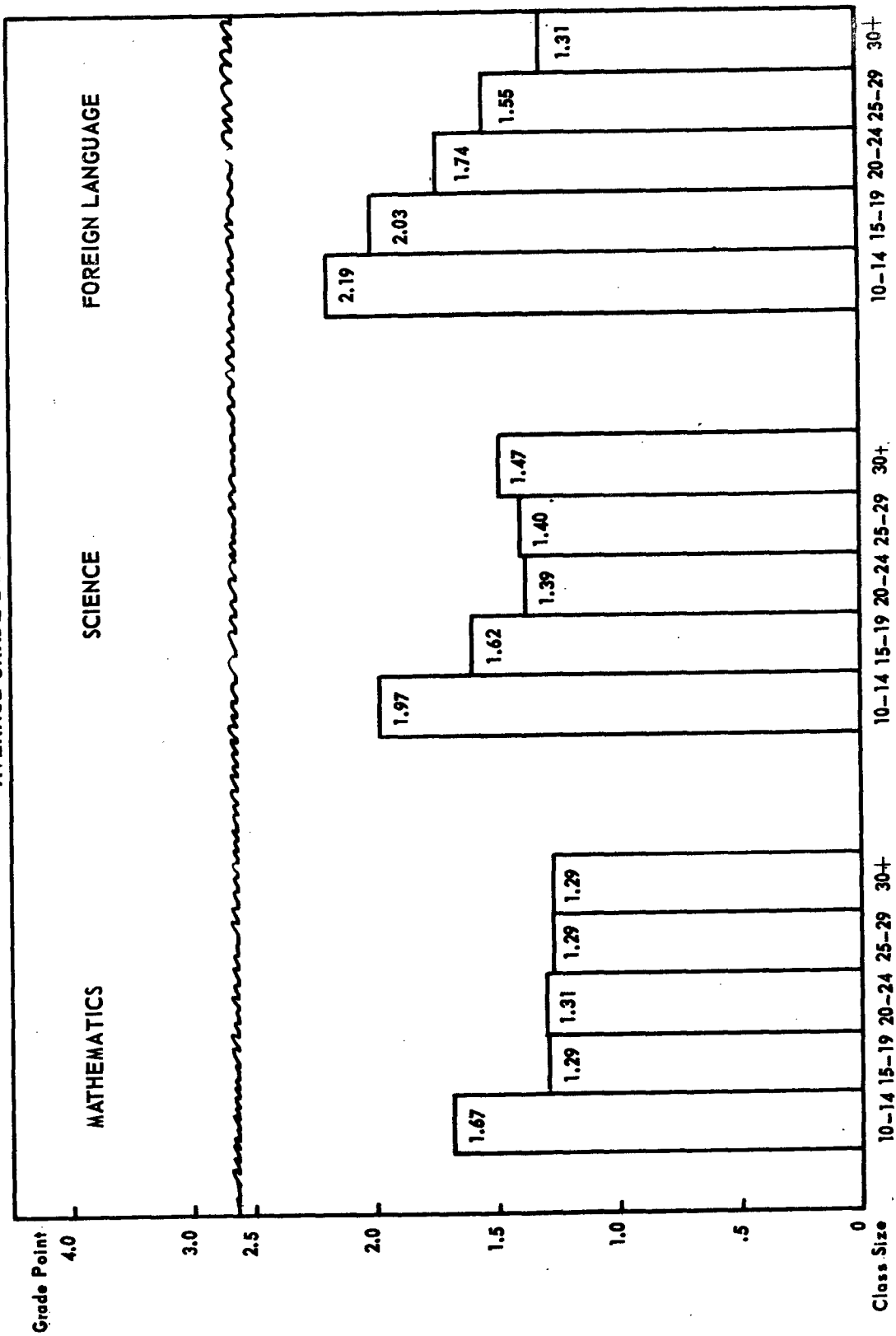
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1/Martin N. Olson, "Identifying Quality in School Classrooms: Some Problems and Some Answers," Central Ideas, Central School Boards Committee for Educational Research, New York State School Board Association, February 1971.

"Class Size," Research Summary 1968-S1, National Education Association.



AVERAGE GRADE BY CLASS SIZE



The most marked difference in the relationship of class sizes to grades was for foreign language. In this department, students in the smaller class sizes had a higher grade point average.

As indicated by the graphs, it may be less costly to have larger classes in certain instructional departments (the larger the class size the lower the per pupil cost) without sacrificing student performance. Conversely, higher student performance might be achieved if other instructional departments had smaller classes.

### Issues and questions

This approach indicates that class size may be an important factor affecting student performance. Some issues and questions surfacing from our analysis, which DCPS could address, follow.

- What might have been the classroom characteristic(s) (style of activity, time of day different classes taught, types of teachers, grade level, sex of teachers, etc.), other than class size and subject taught, which led to increased student achievement in small and large classes?

- - - -

As mentioned at the beginning of this chapter, the examples we developed are only starting points in measuring resource allocation effectiveness. The issues and questions we raised are readily apparent from a brief analysis of the data presented in the examples. Complete analytical appraisal of these and other factors should pinpoint areas needing attention and should provide the basis for changing, if necessary, any resource allocations to the schools.

## CHAPTER 4

### CONCLUSIONS, RECOMMENDATIONS, AGENCY COMMENTS, AND

#### LEGAL ISSUES RECOGNIZED

#### CONCLUSIONS

As our review and other studies of the District of Columbia Public Schools show, improvements in the present resource management system can add new dimensions to management of resources by school officials. An improved resource management system would enable school management to use analytical techniques to evaluate the efficiency and effectiveness of resource allocation and use throughout the school system.

The illustrative approaches we used involved only allocating personnel services to one school function--instruction. School officials can develop and apply similar techniques to other school operations. For instance, with proper data, analyses could be made to determine if administrative and operation and maintenance resources were effectively allocated among schools.

#### RECOMMENDATIONS

We recommend that the Board of Education establish an effective and reliable resource management system within the overall DCPS management structure by:

- Developing guidelines to improve the educational information and financial management systems and the research and evaluation capability, possibly along the lines of the criteria in appendix III.
- Developing and adopting an overall plan and timetable for designing, installing, and operating a comprehensive resource management system that will provide for accumulating and reporting of cost data and other information on education as discussed in this report.

- - - - -

To effectively carry out these recommendations, we believe that the District of Columbia Public Schools must:

- Determine the needs and requirements for a comprehensive resource management system that will satisfy applicable laws and regulations and provide the Board



of Education and the Superintendent of Schools with information required for policy formulation and good school management.

- Prescribe and develop criteria for a comprehensive resource management system that sets forth the DCPS educational objectives, delineates organization and staff responsibilities, and describes the existing systems and processes.

## AGENCY COMMENTS

### Board of Education

The President of the Board of Education said that the Board places a high priority on improving the management of the public school system, which includes developing data for effective utilization of resources, but that delays have occurred in achieving this objective, largely because of inadequate appropriations. He said that the Board recognizes the need for a system that will record cost data for various kinds of expenditures by individual schools and that such a system is important for budget and financial record purposes and will facilitate local school budgeting and management. He said, however, that the use of academic grades in making comparisons between schools is rather inconclusive and that there are many other factors which affect the degree of success attained at different schools. The subjective nature of student evaluations by teachers would have to be considered in measuring program effectiveness based solely on grades. He said, however, that the need for a data system for management purposes fully justifies the efforts and resources that are needed to develop and operate it, as it would be useful to administrators in their continuing efforts to operate the schools effectively.

### Superintendent of Schools

The Superintendent of Schools agreed with GAO's recommendations and position that one basic requirement for improving the management of money and staff is the development of a financial system data base that is reliable and useful, including the capability of identifying costs at the school level and within schools by program. He said this must be done before it will be possible to relate educational outputs to costs. The Superintendent said that this has been assigned one of the highest priorities in DCPS.

The Superintendent said also that DCPS has attempted to install a program evaluation system; however, this system has been limited to 34 elementary schools and has only been applied to the reading program because of the lack of funding and personnel.

The Superintendent said that implementation of these two systems will provide an improved resource management system and enable school management to evaluate the efficiency and effectiveness with which resources have been allocated throughout the schools.

- - - -

We have not reviewed the staff requirements or other resource needs of DCPS. We, therefore, cannot comment on whether the resources are being used most efficiently and effectively or whether additional resources may be needed to improve and operate a resource management system to carry out our recommendations.

We agree with the Board's President that student grades alone should not be used to measure program effectiveness. The analyses included in our report are illustrative and show the benefits that can be derived by having a system which produces data that will allow management to compare costs and results among and within schools. Such comparisons help to alert managers in identifying areas where detailed evaluations should be made to find out the reasons for seemingly inappropriate resource uses and to make informed decisions to correct any problem areas.

The Board and the Superintendent recognize that resources can be allocated more effectively than at present by improving the DCPS management system. To insure that needed changes are made, a definite plan should be established for identifying the specific changes, determining the resources required, and developing a schedule for completing the necessary actions. If additional resources are required, the Board should seek the necessary funding authority.

## LEGAL ISSUES RECOGNIZED

The conclusions and recommendations expressed in this report must be read in light of several court decisions <sup>1/</sup> which bear directly on the operation of DCPS and possibly limit management's discretion in the operations of the schools. We recognize that the courts have decreed that substantial equality in the allocation of educational resources to the various schools in DCPS is required. The courts, however, have also emphasized that the Board and school administration must retain some flexibility in carrying out educational programs. See Brown v. Board of Education, 349 U.S. pp. 294, 299, and 300 (1955)

Our conclusions and recommendations are intended to carry out the guiding principles of these court cases by suggesting ways in which the overall school system may be strengthened through improvements in the resource management system which will help to assure that the educational needs of every child will be met.

Of course, any changes in the resource management system ultimately implemented would have to be consistent with the court decisions referred to above.

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<sup>1/</sup>Hobson v. Hansen, 269 F. Supp. 401 (D.D.C. 1967), aff'd, sub. nom. Smuck v. Hobson, 408 F. 2d 175 (D.C. Cir. 1969). See also Hobson v. Hansen, 327 F. Supp. 844 (D.D.C. 1971).

## CHAPTER 5

### SCOPE OF REVIEW

Our review of the District of Columbia Public Schools resource management system included analyzing personnel cost and program information for the 12 senior high schools for the school year 1972-73. We planned to study the entire school system by statistically selecting a representative sample, which would have required review work at 108 of the 200 schools. However, because of inaccuracies in school records at DCPS headquarters, it would have been necessary to visit each school to obtain accurate information. Also, the system for accumulating program data was only installed in the 12 senior high schools and about half of the junior high schools. Therefore, because of the time-consuming effort that would be required to visit, develop, and review information for 108 schools, we limited our study to the 12 senior high schools.

We determined personnel costs for the major operating functions and made comparisons among the 12 schools. We also developed several illustrative approaches to show how cost and program information might serve management in an improved and expanded resource management system. We examined DCPS current procedures and practices for allocating its resources among the schools. We also reviewed other independent studies made of DCPS.

We visited all 12 senior high schools and interviewed teachers, principals, and other DCPS officials responsible for the matters discussed in this report.

## BOARD OF EDUCATION OF THE DISTRICT OF COLUMBIA

Presidential Building  
415 Twelfth Street, N. W.  
Washington, D. C. 20004



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March 26, 1976

Dwight S. Cropp  
Executive Secretary

David A. Splitt  
General Counsel

Mr. Victor L. Lowe, Director  
General Government Division  
U.S. General Accounting Office  
Washington, D.C. 20548

Dear Mr. Lowe:

The District of Columbia Board of Education has received your draft report, "What Can Be Done To Improve The Management Of Money And Staff? D.C. Public Schools."

The Board has studied the report and you may be assured that all of us place high priority on improving management in the school system in order to maximize the learning climate for our students. Over a period of years the Board has sought to improve the management system, but delays in the accomplishment of this objective have occurred largely as a result of inadequate appropriations. The Board of Education requested funds in FY 1974, 1975, and 1976 to implement some of the very systems controls that you have indicated are needed for the effective utilization of resources. In fact, the Board has just recently suffered a setback as a result of the actions taken by the Mayor and City Council on the D.C. Public Schools' proposed FY 1977 budget. The Board cannot very well move to implement new management systems in the wake of an externally imposed \$12 million reduction in our base budget.

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The Board of Education recognizes the need for a system that will record cost data for various kinds of expenditures by individual schools. In fact, such a system is an essential element of the local school budgeting process which has been adopted as policy by the Board, but which has not as yet been fully implemented.

We believe, however, that in making comparisons between schools, little can be gained by comparing students' academic grades given in one school with those given in another school. At best, the grades assigned for student performance are quite subjective and may vary considerably between schools and, indeed, between different teachers in the same school.

The major factor in determining the salary of a teacher is length of teaching service in the D.C. Public Schools. What correlation there is between length of service and excellence of a teacher is not known, and, to the extent that duration of teaching experience may be a relevant factor, it is difficult to believe that the D.C. Public Schools' experience would carry more weight than that obtained elsewhere. Yet, the existing rule for establishing salary steps allows only limited credit for prior service outside the District of Columbia Public Schools.

All of the foregoing speaks to the point that any comparison between schools based on students' grades and the expenditures for teachers' salaries probably is rather inconclusive. There are undoubtedly many factors which affect the relative degree of success attained at different schools. The study which your staff has conducted deals with only a few of them which presumably seemed at the time to be most readily ascertainable.

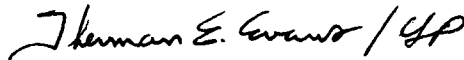
Thus, it appears to us that the need for an information system which can produce data by individual schools is important for budget and financial record purposes and will facilitate local school budgeting and management. The Board believes that the systems data base must be made reliable, including the capability of identifying all kinds of costs at the school level and within schools by program. We are told by the school administration that the system which is now being developed will be totally computerized by the end of FY 1977; however, as we have pointed out, the subjective nature of the evaluation of students by teachers would have to be considered in any attempt to measure program effectiveness based solely on grades given to students at different schools in their various courses of study. We believe, however, that the additional uses to which such a data system would be put fully justify the efforts and resources that are needed to develop it and to operate it. These uses would include, but not be limited to, local school

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budgeting, equalization of resources to meet the requirements of the Court in Hobson v. Hansen, and the development of an information base which would be useful to administrators in their continuing efforts to operate the schools in the most effective manner possible.

In conclusion, I am attaching for your information, a copy of the "Summary of the Contents of the Four Volume Report Prepared in Connection with the Review and Evaluation of Support Systems," of the D.C. Public Schools as prepared by Price Waterhouse and Company (January 31, 1972). The Board accepted the recommendations listed in the report, and the school administration has generally regarded these recommendations as guidelines for reorganization efforts in the management area.

Sincerely,

A handwritten signature in dark ink, appearing to read "Therman E. Evans / EP".

Therman E. Evans, M.D.  
President  
Board of Education

Attachment

cc: Board Members  
Superintendent  
Mr. Cropp

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PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA  
SUPERINTENDENT OF SCHOOLS  
PRESIDENTIAL BUILDING  
415 - 12TH STREET, N. W.  
WASHINGTON, D. C. 20004

March 22, 1976

Mr. Victor L. Lowe, Director  
U.S. General Accounting Office  
General Government Division  
Washington, D. C. 20548

Dear Mr. Lowe:

The D. C. Board of Education has received the General Accounting Office draft report, "What Can Be Done to Improve the Management of Money and Staff? D. C. Public Schools."

The draft report recommends that the Board of Education and the Superintendent of Schools develop a system that would accumulate and relate costs to student achievement so that management can identify any cause/effect relationships and thereby determine if it is getting the best education benefit for each dollar spent. Specifically, the GAO recommends that the Public Schools:

- . develop and formally prescribe criteria for a resource management system including guidelines for improving the accuracy and reliability of the present management system.
- . develop and formally adopt an overall plan and timetable for designing and installing a resource management system that will provide for accumulating and reporting of cost data and education information in this report.

The D. C. Public School system agrees with these recommendations and the position of the GAO that one basic requirement to improve the management of money and staff is the development of a data base that is reliable and useful. On page 14 of the draft, GAO states:

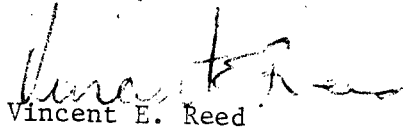
The D.C.P.S. financial system is designed to provide control of specific expenditure items -- such as salaries, travel, supplies, and equipment -- in terms of funds available to D.C.P.S. While certain cost data can be obtained, the system does not systematically allocate, accumulate, and report by individual school, the costs of school functions, and activities, such as administration and instruction, and the costs of achieving educational programs, such as reading and mathematics. Neither are the system's data reliable.



Our position is that, before it is possible to relate educational outputs to costs, the system's data base must be made reliable, including the capability of identifying costs at the school level and within schools by program. This task is presently assigned one of the highest priorities in the school system. At present a portion of the system is being maintained on a manual basis; the system is expected to be totally computerized in FY 77. The measurement of program effectiveness is highly subjective and takes place at all levels throughout the school system. On a system basis, D.C.P.S. has attempted to install a comprehensive evaluation system, described in a D.C.P.S. document, "Evaluation of Programs in the D. C. Public Schools -- Some Strategies and Systems," attached. At this point, it is limited to 34 elementary schools and has been restricted to the reading program because of lack of funding and personnel.

We believe that the implementation of such systems will provide an improved resource management system and enable school management to use analytical techniques to evaluate the efficiency and effectiveness with which resources have been allocated throughout the schools.

Sincerely,



Vincent E. Reed  
Superintendent of Schools

VER:mfw

Attachment

GAO note: The page referred to in this appendix may refer to an earlier draft report.

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SUGGESTED CRITERIA FOR AN EFFECTIVE  
RESOURCE MANAGEMENT SYSTEM

The following suggested criteria could be useful to DCPS in improving and expanding its resource management system.

1. Document its program objectives clearly and precisely.
2. Establish organization and staff levels responsible for planning and managing the programs and activities directed toward the objectives.
3. Have the written statement of objectives quantified and delegated and subdelegated to the staffs and organizations responsible for achieving the objectives.
4. Determine that the objectives and their subdelegations are clearly understood by the staffs and organizations responsible for achieving them.
5. Describe the existing educational delivery systems and processes by using a flow chart, identifying the tasks and functions of each organizational unit in delivering the educational services for achieving the stated objectives.
6. Develop a master plan for accomplishing the stated objectives beginning with the existing educational delivery systems and processes. The plan should be described by the educational programs and/or services and the educational delivery systems and/or processes to be used. It should also specify the resources (personnel, facilities, and material by type, quantity, and dollars) allocated to each educational program and/or service and the method for evaluating the effectiveness of each educational program and/or service in quantitative and/or qualitative terms or measures.
7. Develop an education information system which can provide all program information necessary to show the resources being used and the results being achieved and to measure productivity and efficiency in terms of the objectives. The system should be capable of flagging the exception from acceptable performance and of identifying problems in need of attention.

8. Develop an accounting system which can pinpoint and relate costs of resources used to program objectives at the school and classroom levels. The system should also be capable of identifying weak and wasteful operations and providing comparative cost analyses among the schools, programs, and activities.
9. Monitor the performance of the school system and its progress toward program objectives. The monitoring should include both accounting and educational program reporting functions and provide systematic recurring and special reports on educational performance and the costs of resources used in that performance.
10. Expand and improve its research and evaluation capability to enable it to fully use and act upon the information produced by the monitoring function.
11. Set up an internal audit or internal review capability independent of the programs and activities to be examined. To be effective the internal audit must be broad in the scope of its reviews and be directed to known or potential problems. Its findings must be given proper attention by top management.

PRINCIPAL OFFICIALS OF THE  
DISTRICT OF COLUMBIA GOVERNMENT CONCERNED WITH  
ACTIVITIES DISCUSSED IN THIS REPORT

	<u>Tenure of office</u>	
	<u>From</u>	<u>To</u>
PRESIDENT, BOARD OF EDUCATION:		
Therman E. Evans	Jan. 1976	Present
Virginia Morris	July 1974	Jan. 1976
Marion Barry, Jr.	Jan. 1972	July 1974
SUPERINTENDENT OF SCHOOLS:		
Vincent E. Reed	Mar. 1976	Present
Vincent E. Reed (acting)	Oct. 1975	Mar. 1976
Barbara A. Sizemore	Oct. 1973	Oct. 1975
Hugh J. Scott	Oct. 1970	Sept. 1973
DEPUTY SUPERINTENDENT, MANAGEMENT SERVICES:		
Edward G. Winner (acting)	Oct. 1975	Present
James L. Williams	Jan. 1974	Oct. 1975
William J. Bedford (acting)	Sept. 1972	Dec. 1973
ASSOCIATE SUPERINTENDENT, PLANNING, RESEARCH, AND EVALUATION:		
Vacant	Aug. 1975	Present
James Johnson	Jan. 1974	Aug. 1975
ASSISTANT SUPERINTENDENT, RESEARCH AND PLANNING:		
Mildred P. Cooper	Nov. 1970	Present